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| Terms                                | Documents |
|--------------------------------------|-----------|
| I4 and (cell cycle or cell division) | 5         |

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- Derwent World Patents Index
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|----------------|--------------------------------------|------------------|-----------------|
| USPT           | I4 and (cell cycle or cell division) | 5                | <u>L5</u>       |
| USPT           | I3 and transgenic                    | 13               | <u>L4</u>       |
| USPT           | I2 and plant?                        | 40               | <u>L3</u>       |
| USPT           | brassinosteroid                      | 45               | <u>L2</u>       |
| USPT           | dwf4 or dwarf4 or dwarf 4            | 0                | <u>L1</u>       |

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|              |   |   |  |  |  |
|--------------|---|---|--|--|--|
| NEWS 1       | Web Page URLs for STN Seminar Schedule - N. America   |   |  |  |  |
| NEWS 2       | Dec 17  | The CA Lexicon available in the CAPLUS and CA files                   |  |  |  |
| NEWS 3       | Feb 06  | Engineering Information Encompass files have new names                |  |  |  |
| NEWS 4       | Feb 16  | TOXLINE no longer being updated                                       |  |  |  |
| NEWS 5       | Apr 23  | Search Derwent WPINDEX by chemical structure                          |  |  |  |
| NEWS 6       | Apr 23  | PRE-1967 REFERENCES NOW SEARCHABLE IN CAPLUS AND CA                   |  |  |  |
| NEWS 7       | May 07  | DGENE Reload  |  |  |  |
| NEWS 8       | Jun 20  | Published patent applications (A1) are now in USPATFULL               |  |  |  |
| NEWS 9       | JUL 13  | New SDI alert frequency now available in Derwent's DWPI and DPCI      |  |  |  |
| NEWS 10      | Aug 23  | In-process records and more frequent updates now in MEDLINE           |  |  |  |
| NEWS 11      | Aug 23  | PAGE IMAGES FOR 1947-1966 RECORDS IN CAPLUS AND CA                    |  |  |  |
| NEWS 12      | Aug 23  | Adis Newsletters (ADISNEWS) now available on STN                      |  |  |  |
| NEWS 13      | Sep 17  | IMSworld Pharmaceutical Company Directory name change to PHARMASEARCH |  |  |  |
| NEWS 14      | Oct 09  | Korean abstracts now included in Derwent World Patents Index          |  |  |  |
| NEWS 15      | Oct 09  | Number of Derwent World Patents Index updates increased               |  |  |  |
| NEWS 16      | Oct 15  | Calculated properties now in the REGISTRY/ZREGISTRY File              |  |  |  |
| NEWS 17      | Oct 22  | Over 1 million reactions added to CASREACT                            |  |  |  |
| NEWS 18      | Oct 22  | DGENE GETSIM has been improved  |  |  |  |
| NEWS 19      | Oct 29  | AAASD no longer available   |  |  |  |
| NEWS 20      | Nov 19  | New Search Capabilities USPATFULL and USPAT2                          |  |  |  |
| NEWS 21      | Nov 19  | TOXCENTER(SM) - new toxicology file now available on STN              |  |  |  |
| NEWS 22      | Nov 29  | COPPERLIT now available on STN  |  |  |  |
| NEWS 23      | Nov 29  | DWPI revisions to NTIS and US Provisional Numbers                     |  |  |  |
| NEWS 24      | Nov 30  | Files VETU and VETB to have open access                               |  |  |  |
| NEWS EXPRESS | August 15 CURRENT WINDOWS VERSION IS V6.0c,<br>CURRENT MACINTOSH VERSION IS V6.0 (ENG) AND V6.0J (JP),<br>AND CURRENT DISCOVER FILE IS DATED 07 AUGUST 2001 |   |  |  |  |
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FILE 'CAPLUS' ENTERED AT 13:26:59 ON 01 DEC 2001  
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COPYRIGHT (C) 2001 BIOSIS(R)

=> s dwf4 or dwarf4 or dwarf 4

L1 23 DWF4 OR DWARF4 OR DWARF 4

=> dup rem l1

PROCESSING COMPLETED FOR L1

L2 11 DUP REM L1 (12 DUPLICATES REMOVED)

=> d 1-11 ti

- L2 ANSWER 1 OF 11 AGRICOLA DUPLICATE 1  
TI Selective interaction of triazole derivatives with **DWF4**, a cytochrome P450 monooxygenase of the Brassinosteroid biosynthetic pathway, correlates with brassinosteroid deficiency in planta.
- L2 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2  
TI Overexpression of **DWARF4** in the brassinosteroid biosynthetic pathway results in increased vegetative growth and seed yield in Arabidopsis
- L2 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2001 ACS  
TI Protein and cDNA sequences of Arabidopsis **DWF4** gene encoding a cytochrome P450 that mediates multiple 22.alpha.-hydroxylation steps in brassinosteroid biosynthesis, and uses thereof
- L2 ANSWER 4 OF 11 AGRICOLA DUPLICATE 3  
TI The Arabidopsis dwarf1 mutant is defective in the conversion of 24-methylenecholesterol to campesterol in brassinosteroid biosynthesis.
- L2 ANSWER 5 OF 11 AGRICOLA DUPLICATE 4  
TI The **DWF4** gene of arabidopsis encodes a cytochrome P450 that mediates multiple 22 alpha-hydroxylation steps in brassinosteroid biosynthesis.
- L2 ANSWER 6 OF 11 AGRICOLA DUPLICATE 5  
TI An arabidopsis brassinosteroid-dependent mutant is blocked in cell elongation.
- L2 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 6  
TI Decreased muscle cell proliferation in chicks with a deletion in the GH receptor gene
- L2 ANSWER 8 OF 11 AGRICOLA DUPLICATE 7

TI Phenotypic characterization of the **dwarf-4** mutant of lettuce.

L2 ANSWER 9 OF 11 AGRICOLA DUPLICATE 8  
TI Rht1 and Rht2 semidwarf genes effect on hybrid vigor and agronomic traits of wheat.

L2 ANSWER 10 OF 11 BIOSIS COPYRIGHT 2001 BIOSIS  
TI THREE NEW ANALOGOUS MUTATIONS IN XENOPUS-LAEVIS.

L2 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2001 ACS  
TI Biological effects of .gamma.-ray from cesium-137. Part II.

=> d ab

L2 ANSWER 1 OF 11 AGRICOLA DUPLICATE 1

=> d so

L2 ANSWER 1 OF 11 AGRICOLA DUPLICATE 1  
SO The Journal of biological chemistry, July 13, 2001. Vol. 276, No. 28. p. 25687-25691  
Publisher: Bethesda, Md. : American Society for Biochemistry and Molecular Biology.  
CODEN: JBCHA3; ISSN: 0021-9258

=> d 2 so

L2 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2  
SO Plant J. (2001), 26(6), 573-582  
CODEN: PLJUED; ISSN: 0960-7412

=> d 2 ab

L2 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2  
AB Plants unable to synthesize or perceive brassinosteroids (BRs) are dwarfs.  
Arabidopsis **dwf4** was shown to be defective in a steroid 22.alpha. hydroxylase (CYP90B1) step that is the putative rate-limiting step in the BR biosynthetic pathway. To better understand the role of **DWF4** in BR biosynthesis, transgenic Arabidopsis plants ectopically overexpressing **DWF4** (AOD4) were generated, using the cauliflower mosaic virus 35S promoter, and their phenotypes were characterized. The hypocotyl length of both light-and dark-grown AOD4 seedlings was increased dramatically as compared to wild type. At maturity, inflorescence height increased >35% in AOD4 lines and >14% in tobacco **DWF4** overexpressing lines (TOD4), relative to controls. The total no. of branches and siliques increased more than twofold in AOD4 plants, leading to a 59% increase in the no. of seeds produced. Anal. of endogenous BR levels in **dwf4**, Ws-2 and AOD4 revealed that **dwf4** accumulated the precursors of the 22.alpha.-hydroxylation steps, whereas overexpression of **DWF4** resulted in increased levels of downstream compds. relative to Ws-2, indicative of facilitated metabolic flow through the step. Both the levels of **DWF4** transcripts and BR phenotypic effects were progressively increased in **dwf4**, wild-type and AOD4 plants, resp. This suggests that it will be possible

to control plant growth by engineering **DWF4** transcription in plants.

=> d 3 pi

| L2 | ANSWER 3 OF 11 | CAPLUS   | COPYRIGHT 2001 ACS |                         |
|----|----------------|--|--------------------|-------------------------|
|    | PATENT NO.     | KIND   | DATE               | APPLICATION NO. DATE    |
| PI | WO 2000047715  | A2   | 20000817           | WO 2000-US3820 20000211 |
|    | W:             | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |                    |                         |
|    | RW:            | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |                    |                         |
|    | AU 2000040010  | A5   | 20000829           | AU 2000-40010 20000211  |

=> d 4 ab

L2 ANSWER 4 OF 11 AGRICOLA DUPLICATE 3  
AB Since the isolation and characterization of dwarf1-1 (dwf1-1) from a T-DNA insertion mutant population, phenotypically similar mutants, including deetiolated2 (det2), constitutive photomorphogenesis and dwarfism (cpd), brassinosteroid insensitive (bri1), and **dwf4**, have been reported to be defective in either the biosynthesis or the perception of brassinosteroids. We present further characterization of dwf1-1 and additional dwf1 alleles. Feeding tests with brassinosteroid-biosynthetic intermediates revealed that dwf1 can be rescued by 22 alpha-hydroxycampesterol and downstream intermediates in the brassinosteroid pathway. Analysis of the endogenous levels of brassinosteroid intermediates showed that 24-methylenecholesterol in dwf1 accumulates to 12 times the level of the wild type, whereas the level of campesterol is greatly diminished, indicating that the defective step is in C-24 reduction. Furthermore, the deduced amino acid sequence of DWF1 shows significant similarity to a flavin adenine dinucleotide-binding domain conserved in various oxidoreductases, suggesting an enzymatic role for DWF1. In support of this, 7 of 10 dwf1 mutations directly affected the flavin adenine dinucleotide-binding domain. Our molecular characterization of dwf1 alleles, together with our biochemical data, suggest that the biosynthetic defect in dwf1 results in reduced synthesis of bioactive brassinosteroids, causing dwarfism.

=> d 4 so

L2 ANSWER 4 OF 11 AGRICOLA DUPLICATE 3  
SO Plant physiology, Mar 1999. Vol. 119, No. 3. p. 897-907  
Publisher: Rockville, MD : American Society of Plant Physiologists, 1926-CODEN: PLPHAY; ISSN: 0032-0889

=> d 4 ab

L2 ANSWER 4 OF 11 AGRICOLA DUPLICATE 3  
AB Since the isolation and characterization of dwarf1-1 (dwf1-1) from a T-DNA

insertion mutant population, phenotypically similar mutants, including deetiolated2 (*det2*), constitutive photomorphogenesis and dwarfism (*cpd*), brassinosteroid insensitive1 (*bri1*), and **dwf4**, have been reported to be defective in either the biosynthesis or the perception of brassinosteroids. We present further characterization of *dwf1-1* and additional *dwf1* alleles. Feeding tests with brassinosteroid-biosynthetic intermediates revealed that *dwf1* can be rescued by 22 alpha-hydroxycampesterol and downstream intermediates in the brassinosteroid pathway. Analysis of the endogenous levels of brassinosteroid intermediates showed that 24-methylenecholesterol in *dwf1* accumulates to 12 times the level of the wild type, whereas the level of campesterol is greatly diminished, indicating that the defective step is in C-24 reduction. Furthermore, the deduced amino acid sequence of **DWF1** shows significant similarity to a flavin adenine dinucleotide-binding domain conserved in various oxidoreductases, suggesting an enzymatic role for **DWF1**. In support of this, 7 of 10 *dwf1* mutations directly affected the flavin adenine dinucleotide-binding domain. Our molecular characterization of *dwf1* alleles, together with our biochemical data, suggest that the biosynthetic defect in *dwf1* results in reduced synthesis of bioactive brassinosteroids, causing dwarfism.

=> d 5 ab

L2 ANSWER 5 OF 11 AGRICOLA DUPLICATE 4  
AB **dwarf4** (*dwf4*) mutants of *Arabidopsis* display a dwarfed phenotype due to a lack of cell elongation. Dwarfism could be rescued by the application of brassinolide, suggesting that **DWF4** plays a role in brassinosteroid (BR) biosynthesis. The **DWF4** locus is defined by four mutant alleles. One of these is the result of a T-DNA insertion. Plant DNA flanking the insertion site was cloned and used as a probe to isolate the entire **DWF4** gene. Sequence analysis revealed that **DWF4** encodes a cytochrome P450 monooxygenase with 43% identity to the putative *Arabidopsis* steroid hydroxylating enzyme CONSTITUTIVE PHOTOMORPHORESIS AND DWARFISM. Sequence analysis of two other mutant alleles revealed deletions or a premature stop codon, confirming that **DWF4** had been cloned. This sequence similarity suggests that **DWF4** functions in specific hydroxylation steps during BR biosynthesis. In fact, feeding studies utilizing BR intermediates showed that only 22 alpha-hydroxylated BRs rescued the **dwf4** phenotype, confirming that **DWF4** acts as a 22 alpha-hydroxylase.

=> d 5 so

L2 ANSWER 5 OF 11 AGRICOLA DUPLICATE 4  
SO The Plant cell, Feb 1998. Vol. 10, No. 2. p. 231-243  
Publisher: [Rockville, MD : American Society of Plant Physiologists,  
c1998-  
CODEN: PLCEEW; ISSN: 1040-4651

=> d 6 ab

L2 ANSWER 6 OF 11 AGRICOLA DUPLICATE 5  
AB Cell elongation is a developmental process that is regulated by light and phytohormones and is of critical importance for plant growth. Mutants defective in their response to light and various hormones are often dwarfs. The dwarfed phenotype results because of a failure in normal cell elongation. Little is known, however, about the basis of dwarfism as a common element in these diverse signaling pathways and the nature of the

cellular functions responsible for cell elongation. Here, we describe an *Arabidopsis* mutant, **dwarf4** (**dwf4**), whose phenotype can be rescued with exogenously supplied brassinolide. **dwf4** mutants display features of light-regulatory mutants, but the dwarfed phenotype is entirely and specifically brassinosteroid dependent; no other hormone can rescue **dwf4** to a wild-type phenotype. Therefore, an intact brassinosteroid system is an absolute requirement for cell elongation.

=> d 6 so

L2 ANSWER 6 OF 11 AGRICOLA DUPLICATE 5  
SO The Plant cell, Feb 1998. Vol. 10, No. 2. p. 219-230  
Publisher: [Rockville, MD : American Society of Plant Physiologists,  
c1989-  
CODEN: PLCEEW; ISSN: 1040-4651

=> d 7 ab

L2 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 6  
AB The increase in muscle wt. in neonatal animals is a consequence of increased protein accretion and DNA content. GH increases protein accretion and DNA content. GH increases protein accretion but direct effects of GH on myogenic cell proliferation have not been demonstrated. Sex-linked dwarfism in the chick is caused by mutation or deletion in the GH receptor gene and has provided a useful model to study the physiol. consequences of GH insensitivity. This study detd. the consequences of GH receptor gene mutation on muscle cell proliferation in vivo. Northern and Southern blotting and PCR anal. revealed restriction fragment length polymorphism patterns and a 1.cndot.7 kb deletion of the intracellular domain of the GH receptor gene in com. dwarf broiler chicks, similar to the Connecticut strain in which there is a dysfunctional GH receptor. Cell proliferation was measured in muscle sections from normal and dwarf chicks after incorporation of 5-bromo-2'-deoxyuridine (BrdU; 25 mg/kg) in vivo at 2, 5 and 13 days of age. Incorporation of BrdU into nuclei was measured in frozen sections, counter-stained with propidium iodide to est. the total no. of nuclei by quant. image anal., and the labeling index was calcd. Paraffin-embedded sections of breast muscle were stained using an anti-human IGF-I polyclonal antibody. Expression of IGF-I mRNA in muscle from each genotype at 5 days of age was measured by RNase protection assay. The labeling index was similar in 2-day-old chicks from both genotypes (normal, 20.cndot.14.+-2.cndot.39%; dwarf, 19.cndot.79.+-5.cndot.83%). By day 5 the labeling index had decreased but was significantly higher ( $P<0.cndot.02$ ) in normal (12.cndot.53.+-3.cndot.36%) compared with the dwarf (6.cndot.25.+-1.cndot.39%). By 13 days of age, there was a further decrease in labeling index but no difference between the groups (normal, 4.cndot.92.+-1.cndot.28%; **dwarf**, 4.cndot.96.+-1.cndot.51%). IGF-I mRNA was expressed and IGF-I peptide was identified in muscle sections but there was no difference between genotypes. The results show that cell division in breast muscle in vivo is high in neonatal chicks but it declines with increasing age. The absence of a functional GH receptor in the dwarf is assocd. with a greater decline in DAN synthesis and suggests that GH may directly affect a proportion of cells, since there was no difference in IGF-I mRNA or peptide.

=> d 8 spo

'SPO' IS NOT A VALID FORMAT

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REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):so

L2 ANSWER 8 OF 11 AGRICOLA DUPLICATE 7  
SO Canadian journal of botany = Journal canadien de botanique, Oct 1994.  
Vol.

72, No. 10. p. 1541-1549  
Publisher: Ottawa : National Research Council of Canada, 1951-  
CODEN: CJBOAW; ISSN: 0008-4026  
Gov. Source: Federal

=> s 11 and control element?

L3 0 L1 AND CONTROL ELEMENT?

=> s 12 and (promoter or intron or transcription terminator or utr)

L4 2 L2 AND (PROMOTER OR INTRON OR TRANSCRIPTION TERMINATOR OR UTR)

=> d 1-2 ti

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2001 ACS

TI Overexpression of **DWARF4** in the brassinosteroid biosynthetic pathway results in increased vegetative growth and seed yield in *Arabidopsis*

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS

TI Protein and cDNA sequences of *Arabidopsis* **DWF4** gene encoding a cytochrome P450 that mediates multiple 22.alpha.-hydroxylation steps in brassinosteroid biosynthesis, and uses thereof

=> s brassinosteroid and transgenic

L5 29 BRASSINOSTEROID AND TRANSGENIC

=> s 15 and plant?

L6 29 L5 AND PLANT?

=> dup rem 16

PROCESSING COMPLETED FOR L6

L7 22 DUP REM L6 (7 DUPLICATES REMOVED)

=> d 1-10 ti

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2001 ACS

TI Cloning of rice OsBRI1 gene and its use in regulation of **plant** growth and development in **transgenic plant**

L7 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2001 ACS

TI DNA constructs encoding chimeric **plant** RRK receptors (Bril::Xa21 and Hevein::Xa21), and their use in production of **transgenic plants**

L7 ANSWER 3 OF 22 AGRICOLA  
TI BRS1, a serine carboxypeptidase, regulates BRI1 signaling in *Arabidopsis thaliana*. [Erratum: June 5, 2001, v. 98 (12), p. 6981.]

L7 ANSWER 4 OF 22 BIOSIS COPYRIGHT 2001 BIOSIS  
TI Light and **brassinosteroid** signals are integrated via a dark-induced small G protein in etiolated seedling growth.

L7 ANSWER 5 OF 22 AGRICOLA  
TI The ratio of campesterol to sitosterol that modulates growth in *Arabidopsis* is controlled by STEROL METHYLTRANSFERASE 2;1.

L7 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI The ratio of campesterol to sitosterol that modulates growth in *Arabidopsis* is controlled by sterol methyltransferase

L7 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 1  
TI Overexpression of DWARF4 in the **brassinosteroid** biosynthetic pathway results in increased vegetative growth and seed yield in *Arabidopsis*

L7 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2  
TI Obtusifoliol 14.alpha.-Demethylase (CYP51) Antisense *Arabidopsis* Shows Slow Growth and Long Life

L7 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI Expression of a **plant** gene with sequence similarity to animal TGF-.beta. receptor interacting protein is regulated by brassinosteroids and required for normal **plant** development

L7 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI *Arabidopsis* CYP72B1 cytochrome P450 and cDNA and **transgenic** plants with altered **brassinosteroid** signaling

=> d ab

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2001 ACS  
AB This invention provides cDNA, genomic DNA and protein sequence of a rice gene OsBRI1 which is isolated from rice mutant strain d61. The dwarf phenotype d61 is obtained from treating the rice with N-methyl-N-nitroso-urea and the invention provides detailed morphol. description of the mutant. The OsBRI1 gene is identified by RFLP and the gene is mapped into locus D61 of rice chromosome 1. The OsBRI1 gene has high homol. with *Arabidopsis* BRI1 gene which is assocd. with the **brassinosteroid** sensitivity for **plant** development and growth. The invention also provides the tissue distribution of the OsBRI1 gene and the gene is strongly expressed in shoot apex. The **transgenic** rice expressing antisense OsBRI1 gene showed a dwarf phenotype. The OsBRI1 gene can be used to produce dwarf **plants** to resistant to wind damage.

=> d so

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2001 ACS  
SO PCT Int. Appl., 87 pp.  
CODEN: PIXXD2

=> d pi

L7 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2001 ACS  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 ----- ----- ----- -----  
 PI WO 2001073036 A1 20011004 WO 2001-JP2770 20010330  
 W: AU, CA, CN, JP, KR, US  
 RW: CH, DE, FR, GB, IT, NL

=> d 2 pi

L7 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2001 ACS  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 ----- ----- ----- -----  
 PI WO 2001009283 A2 20010208 WO 2000-US20714 20000728  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,  
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,  
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 AU 2000066140 A5 20010219 AU 2000-66140 20000728

=> d 9 ab

L7 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2001 ACS  
 AB Brassinosteroids (BRs) regulate the expression of numerous genes assocd. with **plant** development, and require the activity of a Ser/Thr receptor kinase to realize their effects. In animals, the transforming growth factor-.beta. (TGF-.beta.) family of peptides acts via Ser/Thr receptor kinases to have a major impact on several pathways involved in animal development and adult homeostasis. TGF-.beta.  
 receptor-interacting

protein (TRIP-1) was previously shown by others to be an intracellular substrate of the TGF-.beta. type II receptor kinase which plays an important role in TGF-.beta. signaling. TRIP-1 is a WD-repeat protein that also has a dual role as an essential subunit of the eukaryotic translation initiation factor eIF3 in animals, yeast and **plants**, thereby revealing a putative link between a developmental signaling pathway and the control of protein translation. In yeast, expression of

a TRIP-1 homolog has also been closely assocd. with cell proliferation and progression through the cell cycle. We report here the novel observation that transcript levels of TRIP-1 homologs in **plants** are regulated by BR treatment under a variety of conditions, and that **transgenic plants** expressing antisense TRIP-1 RNA exhibit a broad range of developmental defects, including some that resemble the phenotype of BR-deficient and -insensitive mutants. This correlative evidence suggests that a WD-domain protein with reported dual functions in vertebrates and fungi might mediate some of the mol. mechanisms underlying the regulation of **plant** growth and development by BRs.

=> d 10 ab

L7 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2001 ACS  
 AB The present invention provides cytochrome P 450 CYP72B1 gene basl useful for producing genetically modified **plants** with modulated brassinolide signaling. Overexpression of this gene in **plants**

results in improved insect resistance, dwarfism, and darker-green foliage compared with wild type **plants**. The invention also provides methods for modulating ecdysteroid activity in a **plant** and for assaying **brassinosteroid** function in a **plant**. The latter method can be used to create a gain-of-function allelic series of **plants** characterized by increasing levels of overexpression of a cytochrome P 450 to screen for brassinolide activity in **plant** species. Thus, biochem. anal. of CYP72B1 indicated that it is a C-26 hydroxylase of brassinolide. **Transgenic plants** overexpressing bas1 have severely reduced levels of brassinolide and **brassinosteroid** precursors.

=> d 10 pi

| L7 | ANSWER 10 OF 22 | CAPLUS | COPYRIGHT 2001 ACS   |                 |          |
|----|-----------------|--------|--|-----------------|----------|
| TI | PATENT NO.      | KIND   | DATE   | APPLICATION NO. | DATE     |
| PI | WO 2000055302   | A2     | 20000921   | WO 2000-US6915  | 20000316 |
|    | WO 2000055302   | A3     | 20010111   |                 |          |
|    |                 | W:     | AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |                 |          |
|    |                 | RW:    | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |                 |          |

=> d 11-22 ti

|    |  |          |                    |
|----|--|----------|--------------------|
| L7 | ANSWER 11 OF 22  | CAPLUS   | COPYRIGHT 2001 ACS |
| TI | Protein and cDNA sequences of Arabidopsis DWF4 gene encoding a cytochrome P450 that mediates multiple 22. $\alpha$ -hydroxylation steps in <b>brassinosteroid</b> biosynthesis, and uses thereof |          |                    |
| L7 | ANSWER 12 OF 22  | CAPLUS   | COPYRIGHT 2001 ACS |
| TI | An Arabidopsis thaliana homolog of FK506-binding proteins and its effects on root gravitropism, <b>brassinosteroid</b> biology and <b>plant</b> development                                      |          |                    |
| L7 | ANSWER 13 OF 22  | AGRICOLA | DUPLICATE 3        |
| TI | Loss of function of a rice <b>brassinosteroid</b> insensitive homolog prevents internode elongation and bending of the lamina joint.   |          |                    |
| L7 | ANSWER 14 OF 22  | AGRICOLA |                    |
| TI | BAS1: a gene regulating <b>brassinosteroid</b> levels and light responsiveness in Arabidopsis.   |          |                    |
| L7 | ANSWER 15 OF 22  | AGRICOLA |                    |
| TI | The tomato DWARF enzyme catalyses C-6 oxidation in <b>brassinosteroid</b> biosynthesis.  |          |                    |
| L7 | ANSWER 16 OF 22  | AGRICOLA |                    |
| TI | The Arabidopsis dwarf1 mutant is defective in the conversion of 24-methylenecholesterol to campesterol in <b>brassinosteroid</b> biosynthesis.   |          |                    |
| L7 | ANSWER 17 OF 22  | AGRICOLA | DUPLICATE 4        |
| TI | Auxin and <b>brassinosteroid</b> differentially regulate the expression of three members of the 1-aminocyclopropane-1-carboxylate synthase gene family in mung bean ( <i>Vigna radiata</i> L.).  |          |                    |

L7 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI Steroid receptor kinase BIN1 involved in **brassinosteroid** signal transduction from *Arabidopsis thaliana*

L7 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 5  
TI Transcription of the *Arabidopsis* CPD gene, encoding a steroidogenic cytochrome P450, is negatively controlled by brassinosteroids

L7 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI Challenges in understanding RLK function

L7 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2001 ACS  
TI Cloning of cDNA and gene for cytochrome P450-type hydroxylase involved in the **brassinosteroid** synthesis in **plants** and use of P450 for plant growth regulation

L7 ANSWER 22 OF 22 AGRICOLA  
TI Conservation of function between mammalian and **plant** steroid 5 alpha-reductases.

=> d 11 pi

| L7 | ANSWER 11 OF 22 CAPLUS COPYRIGHT 2001 ACS   | PATENT NO. | KIND   | DATE           | APPLICATION NO. | DATE                   |
|----|---|------------|--|----------------|-----------------|------------------------|
| PI | WO 2000047715   | A2         | 20000817   | WO 2000-US3820 | 20000211        |                        |
|    | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | RW:        | GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | AU 2000040010  | A5 20000829     | AU 2000-40010 20000211 |

=> s 12 and (cell division or cell cycle)

L8 1 L2 AND (CELL DIVISION OR CELL CYCLE)

=> d ti

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS  
TI Decreased muscle cell proliferation in chicks with a deletion in the GH receptor gene

=> d ab

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS  
AB The increase in muscle wt. in neonatal animals is a consequence of increased protein accretion and DNA content. GH increases protein accretion and DNA content. GH increases protein accretion but direct effects of GH on myogenic cell proliferation have not been demonstrated. Sex-linked dwarfism in the chick is caused by mutation or deletion in the GH receptor gene and has provided a useful model to study the physiol. consequences of GH insensitivity. This study detd. the consequences of GH receptor gene mutation on muscle cell proliferation in vivo. Northern and

Southern blotting and PCR anal. revealed restriction fragment length polymorphism patterns and a 1.cntdot.7 kb deletion of the intracellular domain of the GH receptor gene in com. dwarf broiler chicks, similar to the Connecticut strain in which there is a dysfunctional GH receptor. Cell proliferation was measured in muscle sections from normal and dwarf chicks after incorporation of 5-bromo-2'-deoxyuridine (BrdU; 25 mg/kg) in vivo at 2, 5 and 13 days of age. Incorporation of BrdU into nuclei was measured in frozen sections, counter-stained with propidium iodide to est.

the total no. of nuclei by quant. image anal., and the labeling index was calcd. Paraffin-embedded sections of breast muscle were stained using an anti-human IGF-I polyclonal antibody. Expression of IGF-I mRNA in muscle from each genotype at 5 days of age was measured by RNase protection assay. The labeling index was similar in 2-day-old chicks from both genotypes (normal, 20.cntdot.14.+- .2.cntdot.39%; dwarf, 19.cntdot.79.+- .5.cntdot.83%). By day 5 the labeling index had decreased but was significantly higher ( $P<0.cntdot.02$ ) in normal (12.cntdot.53.+- .3.cntdot.36%) compared with the dwarf (6.cntdot.25.+- .1.cntdot.39%). By 13 days of age, there was a further decrease in labeling index but no difference between the groups (normal, 4.cntdot.92.+- .1.cntdot.28%; **dwarf, 4** .cntdot.96.+- .1.cntdot.51%). IGF-I mRNA was expressed and IGF-I peptide was identified in muscle sections but there was no difference between genotypes. The results show that **cell division** in breast muscle in vivo is high in neonatal chicks but it declines with increasing age. The absence of a functional GH receptor in the dwarf is assocd. with a greater decline in DAN synthesis and suggests that GH may directly affect a proportion of cells, since there was no difference in IGF-I mRNA or peptide.

=> s 12 and promoter

L9 2 L2 AND PROMOTER

=> d 1-2 ti

L9 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2001 ACS

TI Overexpression of **DWARF4** in the brassinosteroid biosynthetic pathway results in increased vegetative growth and seed yield in Arabidopsis

L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2001 ACS

TI Protein and cDNA sequences of Arabidopsis **DWF4** gene encoding a cytochrome P450 that mediates multiple 22.alpha.-hydroxylation steps in brassinosteroid biosynthesis, and uses thereof

=> logoff y

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